

Fractions – Reducing

$$1) \frac{5}{20}$$

$$8) \frac{36}{126}$$

$$2) \frac{15}{25}$$

$$9) \frac{60}{80}$$

$$3) \frac{18}{36}$$

$$10) \frac{48}{168}$$

$$4) \frac{16}{28}$$

$$11) \frac{48}{84}$$

$$5) \frac{8}{20}$$

$$12) \frac{56}{64}$$

$$6) \frac{54}{72}$$

$$13) \frac{54}{126}$$

$$7) \frac{48}{72}$$

$$14) \frac{48}{120}$$

Fractions to Decimals

1) $\frac{3}{20}$

2) $\frac{2}{25}$

3) $\frac{1}{8}$

4) $\frac{16}{28}$

5) $\frac{8}{15}$

6) $\frac{3}{12}$

7) $\frac{3}{4}$

Decimals to Fractions

1) 0.34

2) 0.6

3) 0.418

4) 0.42

5) 0.68

6) 0.104

7) 0.2002

8) 0.944

Improper to Mixed Numbers

1) $\frac{20}{3}$

2) $\frac{25}{2}$

3) $\frac{8}{3}$

4) $\frac{28}{5}$

5) $\frac{15}{8}$

6) $\frac{13}{4}$

7) $\frac{41}{7}$

Mixed Numbers to Improper

1) $4\frac{2}{3}$

2) $7\frac{2}{5}$

3) $2\frac{3}{8}$

4) $1\frac{5}{7}$

5) $2\frac{5}{6}$

6) $3\frac{4}{13}$

7) $5\frac{7}{41}$

Answers

Fractions – Reducing

$$1) \frac{5}{20} =$$

$$\boxed{\frac{1}{4}}$$

(5)

$$\frac{20}{4} \div 5$$

$$8) \frac{36}{126} =$$

$$\boxed{\frac{2}{7}}$$

$$\frac{36}{2} \div 3 \div 6 \div 2 \div 3$$

$$\frac{126}{2} \div 63 \div 7 \div 9 \div 3 \div 3$$

$$2) \frac{15}{25} =$$

$$\boxed{\frac{3}{5}}$$

$$\frac{15}{3} \div 5$$

$$\frac{25}{5} \div 5$$

$$9) \frac{60}{80} =$$

$$\boxed{\frac{3}{4}}$$

$$\frac{6}{2} \div 3$$

$$\frac{8}{2} \div 4 \div 2 \div 2$$

$$3) \frac{18}{36} =$$

$$\boxed{\frac{1}{2}}$$

$$\frac{18}{3} \div 6 \div 2 \div 3$$

$$\frac{36}{2} \div 18 \div 3 \div 6 \div 2 \div 3$$

$$10) \frac{48}{168} =$$

$$\boxed{\frac{2}{7}}$$

$$\frac{48}{2} \div 24 \div 3 \div 8 \div 2 \div 4 \div 2 \div 2$$

$$\frac{168}{2} \div 84 \div 2 \div 42 \div 2 \div 21 \div 3 \div 7$$

$$4) \frac{16}{28} =$$

$$\boxed{\frac{4}{7}}$$

$$\frac{16}{2} \div 8 \div 2 \div 4 \div 2 \div 2$$

$$\frac{28}{2} \div 14 \div 2 \div 7$$

$$11) \frac{48}{84} =$$

$$\boxed{\frac{4}{7}}$$

$$\frac{48}{3} \div 16 \div 2 \div 8 \div 2 \div 4 \div 2 \div 2$$

$$\frac{84}{2} \div 6 \div 3 \div 14 \div 2 \div 7$$

$$5) \frac{8}{20} =$$

$$\boxed{\frac{2}{5}}$$

$$\frac{8}{2} \div 4 \div 2 \div 2$$

$$\frac{20}{2} \div 10 \div 2 \div 5$$

$$12) \frac{56}{64} =$$

$$\boxed{\frac{7}{8}}$$

$$\frac{56}{7} \div 8 \div 2 \div 4 \div 2 \div 2$$

$$\frac{64}{2} \div 32 \div 2 \div 16 \div 2 \div 8 \div 2 \div 4 \div 2 \div 2$$

$$6) \frac{54}{72} =$$

$$\boxed{\frac{3}{4}}$$

$$\frac{54}{2} \div 27 \div 3 \div 9 \div 3 \div 3$$

$$\frac{72}{2} \div 36 \div 2 \div 18 \div 2 \div 9 \div 3 \div 3$$

$$13) \frac{54}{126} =$$

$$\boxed{\frac{3}{7}}$$

$$\frac{54}{2} \div 27 \div 3 \div 9 \div 3 \div 3$$

$$\frac{126}{2} \div 63 \div 3 \div 21 \div 3 \div 7$$

$$7) \frac{48}{72} =$$

$$\boxed{\frac{2}{3}}$$

$$\frac{48}{2} \div 24 \div 2 \div 12 \div 3 \div 4 \div 2 \div 2$$

$$\frac{72}{2} \div 36 \div 2 \div 18 \div 3 \div 6 \div 2 \div 3$$

$$14) \frac{48}{120} =$$

$$\frac{2}{5}$$

$$\frac{48}{2} \div 24 \div 2 \div 12 \div 3 \div 4 \div 2 \div 2$$

$$\frac{120}{3} \div 40 \div 4 \div 10 \div 2 \div 5$$

Answers

Fractions to Decimals

1) $\frac{3}{20} = \underline{0.15}$

①
$$\begin{array}{r} .15 \\ 20 \overline{) 3.00} \\ \underline{20} \\ 100 \\ \underline{100} \\ 0 \end{array}$$

2) $\frac{2}{25} = 0.08$

②
$$\begin{array}{r} .08 \\ 25 \overline{) 2.00} \\ \underline{20} \\ 00 \end{array}$$

3) $\frac{1}{8} = 0.125$

③
$$\begin{array}{r} .125 \\ 8 \overline{) 1.000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

means
Repeat
#'s

④
$$\begin{array}{r} .571428 \\ 7 \overline{) 4.000000} \\ \underline{35} \\ 50 \\ \underline{49} \\ 10 \\ \underline{7} \\ 30 \\ \underline{28} \\ 20 \\ \underline{14} \\ 60 \\ \underline{56} \\ 4 \end{array}$$

4) $\frac{16}{28} = \frac{4}{7} = 0.571428$

Reduce fraction
first

5) $\frac{8}{15} = 0.5\overline{3}$

⑤
$$\begin{array}{r} .5\overline{3} \\ 15 \overline{) 8.000} \\ \underline{75} \\ 50 \\ \underline{45} \\ 50 \\ \underline{45} \\ 5 \end{array}$$

means
Repeat
#

⑥
$$\begin{array}{r} .25 \\ 4 \overline{) 1.00} \\ \underline{8} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

6) $\frac{3}{12} = \frac{1}{4} = 0.25$

Reduce fraction
first.

7) $\frac{3}{4} = 0.75$

⑦
$$\begin{array}{r} .75 \\ 4 \overline{) 3.00} \\ \underline{28} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

Answers

Decimals to Fractions

$$1) 0.34 = \boxed{\frac{17}{50}}$$

$$\textcircled{1} \frac{34}{100} \div 2 = \frac{17}{50}$$

$$2) 0.6 = \boxed{\frac{3}{5}}$$

$$\textcircled{2} \frac{6}{10} \div 2 = \frac{3}{5}$$

$$3) 0.418 = \boxed{\frac{209}{500}}$$

$$\textcircled{3} \frac{418}{1000} \div 2 = \frac{209}{500}$$

$$4) 0.42 = \boxed{\frac{21}{50}}$$

$$\textcircled{4} \frac{42}{100} \div 2 = \frac{21}{50}$$

$$5) 0.68 = \boxed{\frac{17}{25}}$$

$$\textcircled{5} \frac{68}{100} \div 2 = \frac{34}{50} \div 2 = \frac{17}{25}$$

$$6) 0.104 = \boxed{\frac{13}{125}}$$

$$\textcircled{6} \frac{104}{1000} \div 4 = \frac{26}{250} \div 2 = \frac{13}{125}$$

$$7) 0.2002 = \boxed{\frac{1001}{5000}}$$

$$\frac{2002}{10000} \div 2 = \frac{1001}{5000}$$

$$8) 0.944 = \boxed{\frac{118}{125}}$$

$$\frac{944}{1000} \div 4 = \frac{236}{250} \div 2 = \frac{118}{125}$$

Answers

Improper to Mixed Numbers

W = Whole #
D = Denominator
N = Numerator

Ex $\nearrow \frac{2}{3} \leftarrow N$
W $\nearrow \frac{2}{3} \leftarrow D$

$$1) \frac{20}{3} = \boxed{6 \frac{2}{3}}$$

$$\textcircled{1} \begin{array}{r} 6 - W \\ 3 \overline{) 20} \\ \underline{18} \\ 2 - N \end{array}$$

$$2) \frac{25}{2} = \boxed{12 \frac{1}{2}}$$

$$\textcircled{2} \begin{array}{r} 12 - W \\ 2 \overline{) 25} \\ \underline{2} \\ 5 \\ \underline{4} \\ 1 - N \end{array}$$

$$3) \frac{8}{3} = \boxed{2 \frac{2}{3}}$$

$$\textcircled{3} \begin{array}{r} 2 - W \\ 3 \overline{) 8} \\ \underline{6} \\ 2 - N \end{array}$$

$$4) \frac{28}{5} = \boxed{5 \frac{3}{5}}$$

$$\textcircled{4} \begin{array}{r} 5 \leftarrow W \\ 5 \overline{) 28} \\ \underline{25} \\ 3 \leftarrow N \end{array}$$

$$5) \frac{15}{8} = \boxed{1 \frac{7}{8}}$$

$$\textcircled{5} \begin{array}{r} 1 - W \\ 8 \overline{) 15} \\ \underline{8} \\ 7 \rightarrow N \end{array}$$

$$6) \frac{13}{4} = \boxed{3 \frac{1}{4}}$$

$$\textcircled{6} \begin{array}{r} 3 - W \\ 4 \overline{) 13} \\ \underline{12} \\ 1 - N \end{array}$$

$$7) \frac{41}{7} = \boxed{5 \frac{6}{7}}$$

$$\textcircled{7} \begin{array}{r} 5 - W \\ 7 \overline{) 41} \\ \underline{35} \\ 6 \rightarrow N \end{array}$$

Answers

Mixed Numbers to Improper

$$1) 4\frac{2}{3} = \boxed{\frac{14}{3}}$$

$$\textcircled{1} \frac{3 \times 4 + 2}{3} = \frac{14}{3}$$

How to:
 $1\frac{2}{3}$

$$\frac{3 \times 1 + 2}{3} = \frac{5}{3}$$

$$2) 7\frac{2}{5} = \boxed{\frac{37}{5}}$$

$$\textcircled{2} \frac{5 \times 7 + 2}{5} = \frac{37}{5}$$

$$3) 2\frac{3}{8} = \boxed{\frac{19}{8}}$$

$$\textcircled{3} \frac{8 \times 2 + 3}{8} = \frac{19}{8}$$

$$4) 1\frac{5}{7} = \boxed{\frac{12}{7}}$$

$$\textcircled{4} \frac{7 \times 1 + 5}{7} = \frac{12}{7}$$

$$5) 2\frac{5}{6} = \boxed{\frac{17}{6}}$$

$$\textcircled{5} \frac{6 \times 2 + 5}{6} = \frac{17}{6}$$

$$6) 3\frac{4}{13} = \boxed{\frac{43}{13}}$$

$$\textcircled{6} \frac{13 \times 3 + 4}{13} = \frac{43}{13}$$

$$7) 5\frac{7}{41} = \boxed{\frac{212}{41}}$$

$$\textcircled{7} \frac{41 \times 5 + 7}{41} = \frac{212}{41}$$